

GERMANY IN INTELLIGENCE

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Electronics Equipment Industry

I. Background

East Germany leads the other European satellites in the total production of electronic equipment; producing for domestic use and for export, radio and television broadcast receivers and other consumer electronic equipment, wire and radio telecommunications equipment, electron tubes, standard components, measuring and testing instruments, and communications wire and cable. The industry produces radio and wire communications for military use, and marine radar sets with possible military applications—the output being limited by the USSR through the control of bloc military equipment markets. A wide range of special electron tubes, semi-conductor devices, and standard components are produced for radar, microwave carrier equipment, and miniaturized field communications equipment. Recent developments in production technology in the field of germanium and silicon transistors indicate that East Germany may soon produce components capable of use in missile guidance systems.

The electronic equipment industry has experienced production difficulties stemming largely from a shortage of trained personnel. Defections to the West have contributed seriously to this problem. Other production difficulties include an uneven supply or complete unavailability of some special materials and components; a shortage of modern machinery and test equipment; and a shortage of plant capacity.

In terms of product mix, the industry has not changed appreciably in recent years. Consumer electronic goods account for about 40 percent of the total gross value of output. Annual output series are available in the Statistical Yearbook for radio and television receivers. In addition, there is considerable information in open and clandestine sources on the output of consumer electronics items.

Electron tubes and standard components (resistors, capacitors, and condensers) account for about 35 percent of the total output. In total output terms there is relatively good intelligence coverage on these items. In the annual Statistical Yearbook, output series for entertainment tubes (including television picture tubes) have been given. However, clandestine reports provide the only major source of information on special tubes, semi-conductor devices, and other specialized components which are significant to military production.

Information on the output of wire and radio communications equipment is relatively scarce, available mostly in clandestine reports. This equipment, representing about 15 percent of total output includes end items for military

now, radar and electronic navigation equipment, microwave radio and telephone carrier frequency equipment, as well as radio and television transmitting and communications receiving equipment. The clandestine collection of intelligence on this equipment warrants a fairly high priority because of its significance to the total Soviet military electronics capabilities. The output of industrial electronic equipment is not significant. However, the possible military applications of electronic computers make this field worthy of continued reporting.

Some of the major electronic equipment plants have been well covered by clandestine reporting. These include the major electron tube manufacturing plant, Werk fuer Rundfunkgeraete at Berlin-Schonehauserstrasse; and the VEB RFT Punktwerk, Berlin-Koepenick, a major producer of radio transmitting and receiving equipment, marine navigational equipment, and radar. Continued plant reporting is very useful in establishing current product mix and aggregate volume of output, and in determining the status of production technology.

East Germany produces electronic equipment for export, primarily to countries of the Bloc. The value of this export trade relative to total electronic equipment output has been decreasing since 1954. Product specialization among the Bloc countries under COMECON has to some extent contributed to this loss of export trade. Therefore, the extent of and the effects of specialization of production under COMECON are matters of continuing significance and the clandestine reporting on this subject should be continued. Imports of electronic equipment are very small. The industry, however, is dependent upon imports for adequate supplies of special materials, including non-ferrous metals, and semi-conductor materials such as germanium and silicon. The present construction of facilities and development of production processes to provide a domestic supply of some of these materials are of considerable importance as indicators of the capabilities of the East German electronic equipment industry.

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II. Specific Items in Intelligence

A. Military electronic equipment production

1. What are the types, quantities, and values of military radar and communications equipment being series produced in East Germany? How much of this is for other Bloc countries?
2. Does East Germany produce electronic computers or other data handling equipment for military use?
3. What is the level of output of infra-red military equipment?

B. Production of electronic components

1. What types and quantities of silicon and germanium transistors are produced in East Germany?
2. What are the past, present, and projected production rates for special electron tubes such as large transmitting tubes, klystrons, magnetrons, travelling-wave tubes, gas-filled rectifiers, thyristors, and metal-ceramic UHF tubes?
3. What is the current status of the production of miniature and sub-miniature components? What is the extent of the use of printed circuits in series-produced items?
4. What is the availability of raw and processed materials for component production? In particular, what is the domestic production level for pure silicon, germanium, indium, iron-nickel alloys, and soft ferrites for memory cores?

C. Aggregate levels of output and investment

1. What was the gross value of output of electronic equipment in 1957, and what is the planned output for 1958?
2. What is the percentage distribution of this output among the major sectors of end-use (military, industrial, civil communications, and consumer)? What are the output levels and costs of production or factory prices for wire and radio communications equipment?
3. What is the investment plan for the electronic equipment industry for 1958 and what were the actual investment expenditures in 1956 and 1957?

D. Bloc specialization of production and trade

1. In what lines of equipment will East Germany be called upon to specialize for Bloc production? To what extent has Bloc specialization of output of electronic equipment been accomplished?

2. What is the level and direction of exports of electronic equipment?

E. Plant information and technical parameters of equipment produced

1. What is the value of output, labor force, and commodity breakdown for plants producing electronic equipment? What are the production difficulties and bottlenecks? What is the status of production equipment?
2. What are the technical parameters and performance characteristics of observed or reported new military and industrial electronic equipment?